# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/853,816 | 05/11/2001 | Fouad A. Tobagi | PA1689US | 7692 |

| 22830          7590          01/20/2006 | EXAMINER |
|---|---|
| CARR & FERRELL LLP<br>2200 GENG ROAD<br>PALO ALTO, CA 94303 | PHAN, MAN U |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2665 | |

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 09/853,816 | TOBAGI ET AL. |
| | Examiner | Art Unit | |
| | Man Phan | 2665 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>21 November 2005</u>.

2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-33 and 35-39* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-13,15-22,24-33 and 35-39* is/are rejected.

7)☒ Claim(s) *7,14,23 and 32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All    b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date __9/19/05__

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

## *DETAILED ACTION*

1.     This communication is in response to applicant's 11/21/2005 Amendment in the

application of Tobagi et al. for a "System and method for controlling data transfer rates on a

network" filed 05/11/2001.  This application claims Priority from Provisional Application

60/257,651 filed 12/22/2000 and 60/257,654 filed 12/26/2000.  This application is a Request for

Continued Examination (RCE) under 37 C.F.R. 1.114 filed on November 21, 2005.  The

proposed amendment to the claims has been entered and made of record.  Claim 1, 9, 16, 25 have

been amended.  Applicant's amendment to the pending claims have been considered but are

moot in view of the new ground(s) of rejection, and will be examined as discussed below.

Claims 1-33 and 35-39 are pending in the application.

## *Claim Rejections - 35 USC § 103*

2.     The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
>
> set forth in section 102 of this title, if the differences between the subject matter sought to be patented and
>
> the prior art are such that the subject matter as a whole would have been obvious at the time the invention
>
> was made to a person having ordinary skill in the art to which said subject matter pertains.  Patentability
>
> shall not be negatived by the manner in which the invention was made.

3.    This application currently names joint inventors. In considering patentability of the claims

under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims

was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 1038

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4.    Claims 1-6, 9-12, 16-21 and 25-30, 38-39 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Williams et al. (US#6,715,007) in view of Kilkki et al. (US#6,081,843).

With respect to claims 16-19 and 25-28, 38-39, Williams et al. (US#6,715,007) and

Kilkki et al. (US#6,081,843) discloses method and system for rate-based flow control in

conjunction with TCP/IP network, according to the essential features of the claims. Williams

discloses in Fig. 1 a block diagram illustrated the data flow regulation in communication

systems, in which the data rate is established in each of a data source (24) and a data sink (28).

The data (26) is transmitted by the data source (24) and written into a buffer (32) at the source

data rate, then read from the buffer (32) and received by the data sink (28) at the sink data rate.

The level (62) of data (26) in the buffer (32) is monitored, and a rate-control signal (74) is

dispatched to either the data source (24) or sink (28) when it is determined the buffer data level

(62) is decreasing or increasing while at a lower or upper data-level threshold (66, 68),

respectively. One of the data rates is adjusted in response to a rate-control signal (74) (See also

Fig. 3; Col. 2, lines 57 plus and Col. 4, lines 27 plus).

Williams et al. (US#6,715,007) differs from claims in that Williams does not expressly

disclose the amount of available space in the receive buffer is maintained at a regulated value.

In the same field of the endeavor, Kilkki et al. (US#6,081,843) discloses a system and method

for regulating the cell transfer rate over a network in response to priority level feedback. The

feedback feature provides network connection availability information corresponding to a level

of bandwidth available on the network connection to the cell source. The connection

availability information is converted into a buffer occupancy level accessible at the cell source.

The cell transfer rate is regulated at the network source unit in accordance with the buffer

occupancy level, including decreasing the cell transfer rate when the buffer occupancy level

rises above a high occupancy threshold of the buffer, and increasing the cell transfer rate when

the buffer occupancy level drops below a low occupancy threshold of the buffer (see Fig. 11,

Col. 3, lines 46 plus).

Regarding claims 20-21 and 29-30, the use of standard FTP/HTTP transmission in the

receiver to provide the server with the ability to retrieve and transmit data files, and the reliance

on a commonly known standard such as the use of standard FTP and HTTP protocols over

network through network interface in the manner claimed would have been obvious to the

artisan as a matter of the application programming interfaces.

Regarding claims 1-6 and 9-12, they are method claims corresponding to the apparatus

claims above. Therefore, claims 1-6 and 9-12 are analyzed and rejected as previously

discussed with respect to claims 16-19 and 25-28.

One skilled in the art would have recognized the need for regulating transfer rates in

packet switching network, and would have applied Kilkki' novel use of the regulating a transfer

rate of information utilizing simulation buffer into Williams's teaching of the data flow

regulation in processing packets in TCP/IP network. Therefore, It would have been obvious to

a person of ordinary skill in the art at the time of the invention was made to apply Kilkki'

system using simulation cell and simulation buffer for regulating cell transfer rate according to

occupancy level of the simulation buffer into Williams's method of regulating a flow of data in

a communication system and apparatus therefor with the motivation being to provide a method

and system for regulating the rate of transmission under TCP/IP protocols network.


5.     Claims 6, 8, 13, 15 and 22, 24, 31, 33, 35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Williams et al. (US#6,715,007) in view of Kilkki et al. (US#6,081,843), as

applied to the claims above, and further in view of Packer (US#6,038,216).

With respect to claims 22, 24 and 31, 33, 35, Williams and Kilkki disclose the claimed

limitations discussed in paragraph 4 above. However, Williams and Kilkki do not expressly

disclose the regulation of a rate at which data is removed is a function of a determined

frequency of lost packets. In the same field of endeavor, Packer (US#6,038,216) discloses a

method for controlling data rate of data packets in a digital data packet communication

environment employing TCP/IP protocols, in which TCP has `flow control` mechanisms

operative at the end stations only to limit the rate at which a TCP endpoint will emit data. The

sliding window flow control mechanism works in conjunction with the Retransmit Timeout

Mechanism (RTO), which is a timeout to prompt a retransmission of unacknowledged data.

The timeout length is based on a running average of the Round Trip Time (RTT) for

acknowledgment receipt, i.e. if an acknowledgment is not received within (typically) the

smoothed RTT+4*mean deviation, then packet loss is inferred and the data pending

acknowledgment is retransmitted. Data rate flow control mechanisms which are operative end-

to-end without explicit data rate control draw a strong inference of congestion from packet loss

(inferred, typically, by RTO). TCP end systems, for example, will `back-off`, i.e., inhibit

transmission in increasing multiples of the base RTT average as a reaction to consecutive

packet loss. Bandwidth Management in TCP/IP Networks (Figs. 2A-I; Col. 1, lines 49 plus and

Col. 3, lines 17 plus)

Regarding claims 6, 8 and 13, 15, they are method claims corresponding to the

apparatus claims above. Therefore, claims 6, 8 and 13, 15 are analyzed and rejected as

previously discussed with respect to claims 22, 24 and 31, 33.

One skilled in the art would have recognized the need for regulating transfer rates in

packet switching network, and would have applied Packer's controlling data rate of data

packets in TCP/IP protocols network, and Kilkki' novel use of the network interface with a

priority control based on available space in the receive buffer into Williams's teaching of the

data flow regulation in processing packets in TCP/IP network. Therefore, It would have been

obvious to a person of ordinary skill in the art at the time of the invention was made to apply

Packer's method for explicit data rate control in a packet communication environment without

data rate supervision, and Kilkki' system using simulation cell and simulation buffer for

regulating cell transfer rate according to occupancy level of the simulation buffer into

Williams's method of regulating a flow of data in a communication system and apparatus

therefor with the motivation being to provide a method and system for regulating the rate of

transmission under TCP/IP protocols network.

### *Allowable Subject Matter*

6.    Claims 7, 14, 23 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for the indication of allowable subject matter: The closest prior art of record fails to disclose or suggest wherein the reduction in average rate of transmission is sufficient to reduce an effect that a transmission has on another transmission in the computer network, as specifically recited in the claims.

### *Conclusion*

7.    The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Porter et al. (US#6,332,023) is cited to show the method and system for providing services in a communications network.

The Mitsutake et al. (US#6,240,460) is cited to show the method and system for data transmission accordance with the data transmission based on control information exchanged between applications of a data transmitter and a data receiver before data transmission is started.

The Vange (US#2002/0002618) is cited to show the system and method for providing last mile data prioritization.

The Nakano et al. (US#6,337,850) is cited to show the method and apparatus for executing communication in real time and data structure for real time data communication.

The Kilkuchi et al. (US#6,975,648) is cited to show the network system and communication band control method thereof.
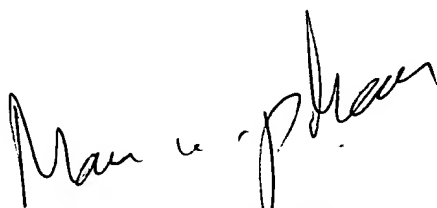
8.    Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149.

The examiner can normally be reached on Mon - Fri from 6:00 to 3:00 EST.  If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155.  The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.  Status information for published applications may be obtained from either Private PAIR or Public PAIR.  Status information for unpublished applications is available through Private PAIR only.  For more information about the PAIR system, see http://pair-direct.uspto.gov.  Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

01/17/2006.

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PRIMARY EXAMINER